Native Prairie
STEWARDSHIP

PLANTS WITH A SENSE OF COMMUNITY

FACT SHEET

A real piece of work

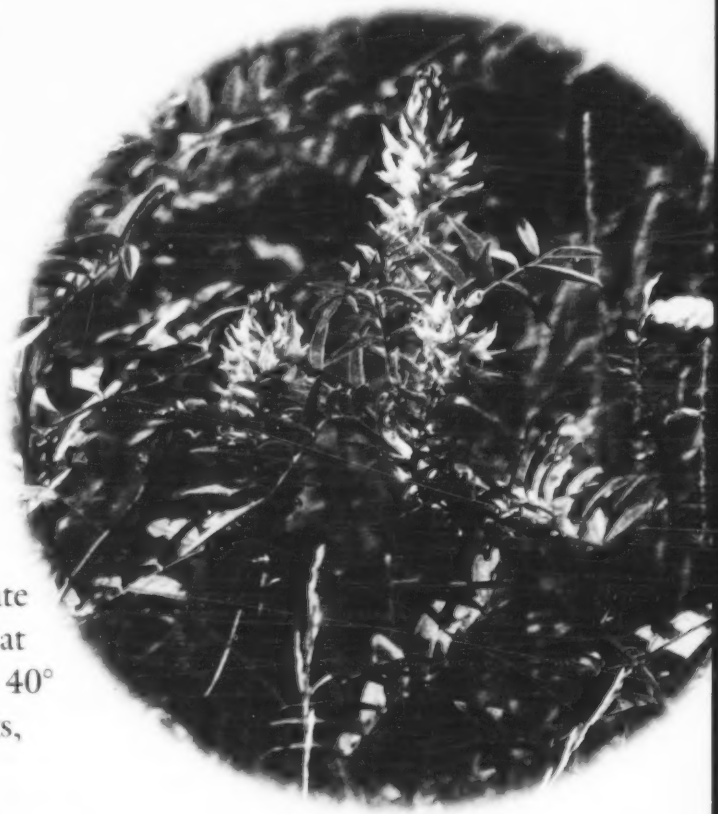
If you have any native prairie on your land, consider yourself fortunate. Just like a coniferous forest, or the arctic tundra, native prairie is a functioning ecosystem. It is a community of grasses, forbs, and shrubs which have evolved together during the past five to ten thousand years. It is also a community quickly becoming endangered. In the highly cultivated landscapes of Saskatchewan, there's not much of this wild and varied community of plants remaining. And what remains may need your protection.

Under the weather

As a community of plants, native prairie can weather the worst. It thrives in a climate which features temperatures that range between plus and minus 40° Celsius, spring floods, droughts, tornadoes and fires.

At one time, native prairie held about 45 million bison, an almost equal number of pronghorn antelope, and a great number of deer, as well as the burrowing and feeding of an inestimable number of rabbits, prairie dogs, gophers, and field mice. We need hardly mention the challenge of insect appetites.

Native prairie, as a plant community, is a real piece of work.



Biodiversity: big inventory, huge selection

Key to appreciating native prairie is recognizing the diversity of its life forms. Biologists estimate that 250 plant species compete and co-operate on our native prairie; the scientific term for this broad variety is biodiversity. Contrast that species variety with an expanse of urban lawn, or a crop of wheat, or a field of barley, where one species dominates to the exclusion of others.

Really, to compare native prairie and a crop is unfair: they work to different designs, to different purposes. When you walk into a crop, you fully expect to find the plant you seeded at your feet, and truly hope that it is the species of plant that dominates a field. On the other hand, when you walk into a vigorous growth of native prairie, even sandhill prairie, you fully expect and hope to find any of a great number of grasses, and forbs (broadleaf herbs, some producing colorful wildflowers), and shrubs at your feet.

Well adapted

Biodiversity allows native prairie to make the most of what resources are available, and to adapt to changing conditions. In a way, the many kinds of plants combine their strengths to become an adaptive force, much like a hockey team gains strength by combining players with many different skills and styles of play. To make the most of the available sunlight, native prairie is layered, with some tall species, like green needle grass, and some short species, like prickly-pear cactus, and with many species ranging between these two extremes. During drier periods, species like northern wheatgrass and western wheatgrass prosper on heavier soils and needle and thread grass on lighter soils; during moister periods, a species like western porcupine grass becomes more common. The actual composition of a community of plants changes as you move from the base of a hill to its crest, it's that sensitive to the conditions in which it lives. Nature can send herds of herbivores—be they bison or Black Angus, big winds, lightning-started fires, flood—and native prairie continues unabated; it's just that tough.

Deeply implanted

Besides biodiversity, the secret of native prairie's toughness is its root system. Only 15 per cent of native prairie plantlife appears above ground. Unlike our cereal crops, which are annuals, native prairie is comprised mainly of perennials. Perennials grow complex root systems that reach deep, some as deep as eight meters into the soil, and far, some may have a linear equivalent of several kilometers of root and root hairs. In a square meter of native prairie, the living and dead plant material above ground weighs on average 275 grams; in a square meter below ground, it weighs on average 1625 grams.

These root systems reach not only deep into the soil, they reach back in time. Like your family line, since ancient times, they have been passing life from generation to generation. All the while, they have sustained an enormous population of animals, including humans, and even on the most marginal of lands, have protected the integrity of the soil.

Four kinds of native prairie

There are several ways to classify native prairie, but a particularly simple one divides Saskatchewan's grasslands into four basic ecoregions: mixed grass prairie, moist-mixed grass prairie, Aspen Parkland, and Cypress Hills complex. These ecoregions (see map) roughly correspond to differences in soil (colors and textures), and moisture and temperature. Within an ecoregion, there may be as many as 15 different range sites. For example, there are areas with normal soils, like clayey, loamy and sandy; there are wetter areas associated with wetlands; and there are drier areas, like sand dunes, and badlands, with thin and gravel soils. The mix of plants on any particular patch of remnant prairie will be attuned exactly to the soils and climate of its location.

Grasslands are distinguished by their dominant species. A few species of grass will dominate a community of plants; in many cases, two or three species of grass may comprise 75 per cent of the plant material. The mixed and moist-mixed grass prairie, the most common in Saskatchewan, occurs in warm, dry semi-arid regions. It's called "mixed grass" because it is dominated by mid-grasses (wheatgrass and needlegrass) and

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shortgrass (blue grama grass). It's usually from 6 to 18 inches tall. Aspen Parkland occurs in cooler, moister areas, and is dominated by fescue grass. There is also some fescue grass, found with some oat grasses and needlegrasses, in Cypress Hills.

Although identified by dominant species, when you inspect a patch of native prairie you can also expect to easily spot 20 other plant species. Common forbs on mixed grass prairie are yarrow, yellow coneflower, prairie sage; common shrubs are hoary sagebrush, winter fat, wild rose, and western snowberry. If your knowledge is great, or if you refer to a field guide, and you spend some time roaming about, you may encounter as many as 100 different plant species within an acre.

Got it covered

Though the mix of plants changes from place to place, from growing season to growing season, what doesn't change is that healthy native prairie, a community comprised of dozens upon dozens of plant species, which gives optimal cover to the land. In most areas, it appears like a mat of grass and flowers beneath your feet. And at one time, this mat reached from Edmonton to the Mexican border. Prior to the introduction of European settlement, this mat covered about 168 million hectares. Native prairie was the largest vegetative community in North America!

Losing place

Now, in some areas, native prairie is all but gone. In Manitoba, 99.9 per cent of the tallgrass prairie has disappeared. In the highly cultivated areas of Saskatchewan, where the mixed grass prairie and the moist mixed grass prairie thrived, 90 per cent of the native prairie is gone; where the fescue prairie thrived, 95 per cent of it is gone. Native prairie is the most altered landscape in North America, as between 1976 and 1981 we lost 1,000 acres a day, or 44 acres each hour, day and night.

Not surprisingly, the prairies are also North America's most thoroughly transformed landscape. And as the native prairie disappears, so disappears much of the wildlife that evolved with it. The prairies have the distinction of being home to many endangered and threatened wildlife species, such as the burrowing owl, the swift fox, the black-tailed prairie dog, the black-footed ferret, the loggerhead shrike, the ferruginous hawk, 18 species in all so far.

On the ropes

Even what little remains of our native prairie as a community of plants is threatened.

Native prairie is threatened by two kinds of invaders: woody plants and exotic species. Once contained by natural prairie fires, woody plants spread into it (you'll notice this most where woody plants decrease both the size and productivity of your pasture.) Exotic species, weeds like Russian thistle, and specially-bred crop species like smooth brome, displace native grasses and forbs. Many exotic species have been human-engineered to germinate easily, sprout early, and mature quickly.

Tough as it is, native prairie is on the ropes, and needs you as a landowner to step in, now.

Hold your ground

Native prairie is a wild and resilient plant community that protects the soil on our marginal lands and provides a home to our many species of wildlife. But this is only one way to appreciate it.

We have not discussed its use as pasture, as a source of insights into improving farming techniques, as a genetic library for developing new species for crop production, or as a potential income generator as the demand for native prairie seed grows. Nor have we discussed how essential native prairie and the wildlife it supports are to the natural beauty of country living.

If you have any native prairie on your land, hold your ground and protect it. Perhaps, if you don't already, consider practising some techniques like controlled burns and managed grazing that will help it along. As an ecosystem, as an adaptive and changing community of plants, native prairie is a real piece of work. Unfortunately, it's a work of nature fast disappearing. Any efforts you extend now to protect your native prairie will be appreciated in the future, by your own children, and generations of prairie people yet to come. Of this you can be certain.

RESOURCES:

Field Guide: Identification of Common Range Plants of Southern Saskatchewan
contact: Saskatchewan Agriculture and Food
(306) 757-9499

Managing Saskatchewan's Rangeland
contact: Saskatchewan Agriculture and Food
(306) 757-9499

A Landowner's Guide: Conservation of the Canadian Prairie
contact: Saskatchewan Wetland
Conservation Corporation
(306) 787-0726

NATIVE PLANT SUPPLIERS:

The following list represents Saskatchewan native plant suppliers who wished tho have their product line published in this document.

Bender, Linda (grasses)
Box 393
Dodsland, Saskatchewan
S0L 0V0
phone: (306)356-2048 fax: (306)356-2048

Blazing Star Wildflowers Seed Co. (Wildflowers)
Box 143
St. Benedict, Saskatchewan
phone/fax: (306)289-2046

Cowie Farms Ltd. (Northern Wheatgrass)
1642 - 11th Ave. N.W.
Moose Jaw, Saskatchewan
S6H 6WR
phone/fax: (306)629-1308

Miller, Mack (wildflowers/grasses)
26 Keeley Way
Saskatoon, Saskatchewan
S7J 1B2
phone: (306)374-4785

Canadian Wildlife Services (grasses)
Box 280
Simpson, Saskatchewan
phone: (306)836-2022 fax: (306)836-2010

Shand Greenhouse (trees/shrubs)
Box 280
Estevan, Saskatchewan
phone: (306)634-9771 fax: (306)634-6682
Note: Plants are not sold, but distributed only to non-profit groups for conservation plants.

Stewart, Nora and Don
Box 273
Arcola, Saskatchewan
phone: (306)455-2513 (wildflowers/grasses)

Wolfater, Ron & Roberta (grasses/wildflowers)
Box 177
Eastend, Saskatchewan
S0N 0T0
phone: (306)558-4700

For more information about native prairie or about actions you can take to protect it, contact:

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The Saskatchewan Wetland Conservation Corporation acknowledges the contributions of the following partners:- Agriculture and Agri-Food Canada through the Agriculture Institute of Management in Saskatchewan, Agricultural Environmental Stewardship Initiative, Canada-Saskatchewan Agricultural Green Plan Agreement, Canadian Adaptation and Rural Development in Saskatchewan, Canadian Agriculture Rural Communities Initiative - **Canada Millennium Partnership Program - Canadian Wildlife Service and World Wildlife Fund** (Endangered Species Recovery Fund) - **Ducks Unlimited Canada - Environment Canada** through EcoACTION - **Government of Canada** Habitat Stewardship Program for Species at Risk - **National Fish and Wildlife Foundation (U.S.) - Nature Conservancy of Canada - Saskatchewan Environment and Resource Management** through the Fish and Wildlife Development Fund - **SaskPower-Shand Greenhouse - TD - Canada Trust Friends of the Environment Foundation- Wildlife Habitat Canada - World Wildlife Fund**

Saskatchewan Wetland Conservation Corporation

Printed in Canada

ISBN # 1-896793-09-6 03/2002